Meeting of Regulators Following June 15 INGAA Meeting on Gas IMP

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Purpose RSPA-99-6355-81

To review and consolidate regulatory concerns in the light of Gas Pipeline industry positions expressed during the June 15 INGAA meeting on the Integrity Management Rule.

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Notes

The outcome of the industry work will be a *technical basis document* that will be docketed and used to support the rule. The OPS objective for the gas industry rule is to add protection to the existing class location regulations for limited zones that are determined to be in HCAs. The outcome must be a substantive improvement over the level of assurance industry provides today (i.e., they will pig more) and OPS criteria that are more conservative (i.e., providing greater protection against property damage and loss of life).

Discussion proceeded on the implications of the industry discovery that the definition of impact zone radius (to be used in defining HCAs) is greater than 660ft in some circumstances. There was general agreement that the proposed industry approach for addressing HCAs greater than 660 ft from the pipeline (i.e., prorating the number of dwellings within a circle of 660 ft using the ratio of areas of the 660 ft radius circle to the HCA circle of greater radius) may not be acceptable. The basis for the prorating approach must be something other than industry's convenience (the reason for prorating beyond 660 ft is because that is the limit of their existing data on number and location of residences). In the event the HCA impact zone is of greater radius than 660 ft, then an actual house count in the expended "heat affected zone" may be necessary.

Discussion of the C-FER analysis as a possible basis for the definition of HCAs resulted in the following points.

- The industry proposal for the heat flux criterion on which the critical burn radius is based may not be acceptable. (The proposed industry analysis is based on the heat flux needed to produce "piloted ignition" of a unpainted wooden structure). Note, piloted ignition occurs when a surface has been heated sufficiently that an outside spark causes it to burst into flame.
- The number used for the heat flux criterion (5000 btu/hr-sq ft) may not be acceptable. The analysis done by New Jersey Institute of Technology used a number of 3962 btu/hr-sq ft for piloted ignition of unpainted wooden structures. Part 193 uses a value of 1600 btu/hr-sq ft as its heat flux criterion for inflicting burns on people, and 4200 btu/hr-sq ft for structures. NFPA uses 3000 btu/hr-sq ft for piloted ignition of unpainted wooden structures.
- OPS agreed, after a long discussion, that impact zone concept has merit, but that perhaps the 5000 Btu/hr-sq ft quoted by industry is too high. OPS needs additional data on heat flux values and needs to see how different Btu/hr-sq ft values affect the HCA areas as depicted on pipeline maps.
- OPS needs to consider burn radius data from other incidents (beyond the Edison, NJ data presented by the industry) to support our decision on criteria for defining HCAs.
- OPS needs to be able to answer the question "Who or what are we trying to protect by establishing the HCA criteria"?

OPS believes one of its objectives should be to provide incentives for industry to move toward 100% piggable pipelines. OPS may consider a rule requiring a "phased" pigging plan which accepts direct assessment as a supplement if some pigging has been done, or until pigging is possible.

If "Direct Assessment" is to be an acceptable means of providing additional assurance of pipeline integrity, the timing of a national consensus standard defining criteria for Direct Assessment is critical to the ability of OPS to effectively enforce the regulation. Ivan Huntoon expressed concern that direct assessment addresses corrosion but not some of the other failure mechanisms addressed by pigging or hydro testing.

Discussion of the applicability of these discussions to gas pipeline operators other than the INGAA members (interstate gas transmission pipeline operators) led to the conclusion that it is necessary to meet separately with AGA members as well as operators of "customer-owned lines".

To ensure improved OPS knowledge of the details of industry activities prior to completion of the industry data gathering phase, as well as to introduce OPS input into the industry activities, it was decided to assign an OPS person to each of the major industry groups. The following assignments were made.

- Ed Ondak will participate in the Corrosion Team where Direct Assessment will be

discussed,

- Rod Seeley will participate in the HCA definition team where the burn radius formula will be considered,
- Bill Gute will participate in the Incidents and Practices team,
- Ivan Huntoon will participate in the Code Evaluation team where gaps in the current Code will be discussed,
- State regulatory representatives were also assigned to each of the teams.

Beth Callsen will provide these names to Andy Drake and Terry Boss. The individuals assigned will be responsible for learning when the groups will hold discussions, participating in the discussions, reviewing documents produced by the teams and their contractors, and communicating the major observations back to the OPS team on what they learn. A Regulator conference call is scheduled to be held at 1:00 pm EDT on Monday, July 17 when all information learned in the team interactions will be discussed.

The final topic discussed was the set of issues, concerns, and questions that the regulators have about issues discussed with the industry to date. These are summarized below.

1. What failure modes (causes) will be considered in the industry *technical basis document* and how they might ultimately be addressed in an integrity management plan. Major causes such as third party damage need to be considered.
2. What additional information does OPS need regarding a "Direct Assessment Strategy"? OPS may consider Direct Assessment under certain circumstances (to be defined). Considerations include:
   - Timing of the demonstration of statistical validity of Direct Assessment Techniques (i.e., comparability to pigging in its ability and reliability for identifying flaws),
   - Timing of publication of the NACE standard governing Direct Assessment,
   - Direct Assessment should be applicable to isolated short segments of pipeline,
   - Direct Assessment may be allowable for integrity baselining where no pigging has been done in the past, if a commitment is made to pigging or hydro testing within an agreed upon time interval (e.g., 7 years if the line can be made piggable),
   - For lines that have been pigged in the past (within 10 years), Direct Assessment may be acceptable as a way of updating the baseline,
   - OPS must understand the risk criteria for selecting locations and number of digs for Direct Assessment,
   - Where pipeline has been changed out recently (timing?), OPS may consider direct assessment for baselining,
   - OPS needs more information on how pipeline in HCAs and under pavement would be addressed using Direct Assessment.
3. Criteria for determining HCAs
   - Basis for the heat flux factor,
   - Basis for number of dwellings within the bubble.
4. How far back (and under what conditions) might OPS be able to accept previously produced inspection data?

5. OPS is still considering exclusion for lines operated at pressures less than 30% SMYS. More information is needed. Perhaps low pressure lines would be phased in using a different rule.
6. Concern over the re-examination interval definition. OPS needs more information on the graphic showing retest interval as a function of class, including the source, imbedded assumptions and the intended application.
7. OPS needs to define further non-population criteria (knock-ons) for the definition of an HCA. Consideration needs to be given to (a) the presence of large sources of highly combustible material in the bubble, (b) cultural/historical areas, (c) recreational facilities, (d) single-source utilities to remote communities (e.g., electric lines).
8. OPS believes that the tie-in of third party damages to integrity management programs is critical. However "random events" are ultimately treated, preventing incidents associated with third party damage must be included in integrity management.

Following discussion of OPS issues, there was discussion regarding informing INGAA in a meeting currently scheduled for July 5 that the BTU flux value needs further consideration, and that OPS needs considerably more information to determine how direct assessment might work and be applied.

A brief discussion on the scope of the rule identified several areas that need to be resolved prior to publication of the NPRM.

- How to divide the rule into different areas of application (e.g., % SMYS),
- Incorporation of off-shore pipeline including in the Great Lakes,
- Incorporation of non-natural-gas pipelines (e.g., chlorine, carbon dioxide, hydrogen),
- Rule limited to pipes only or include pipeline facilities.